Java - Introduction

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Algorithm

- Step by step process to perform a task

Ex:

- Step 1: Start
- Step 2: Read 2 nos. Call them num1,num2
- Step 3: Add num1, num2. Call the result as sum
- Step 4: Display sum
- Step 5: Stop

Process Instruction

- An instruction to the computer system in any language

Ex:

  - Declaring a variable
  - Arithmetic operation
  - Assigning a value to a variable
  - Displaying the result etc.

Program

HelloWorld.java

```
1  package hello;
2
3  public class HelloWorld {
4
5      public static void main(String[] args) {
6          System.out.println("Hello World!");
7      }
8
9  }
```

Introduction to Java

- Technology to develop various applications :
  - Stand alone Apps
  - Web Apps
  - Enterprise Apps
  - Micro Apps [Java for Android]
- Java was originally designed for interactive micro devices
- But it was too advanced for the digital devices at that time
- Initiated by James Arthur Gosling and team

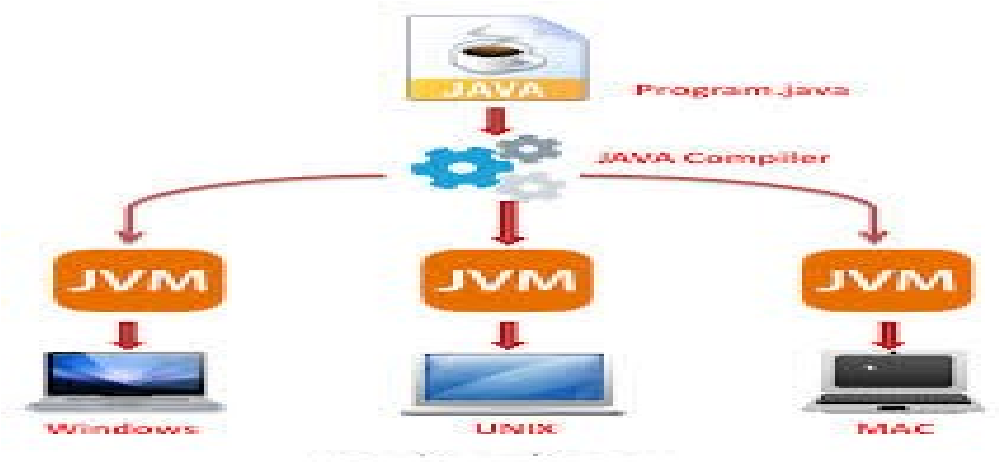
Features of Java

- Simple:
  - Automatic memory management
  - Flexible to create arrays of unlimited size
  - No Pointers

- Object Oriented: No coding outside the class
  - Organizing software as a combination of different types of objects that incorporates both data and behaviour.
- Robust:
  - Strong in type checking, memory management,
  - Lack of pointers provides security
  - Strong type checking and API for abnormal situation at run time

Features of Java

- Platform independent
  - Platform is OS platform
  - Java code can be run on multiple platforms e.g.Windows,Linux,Su n Solaris,Mac/OS etc.



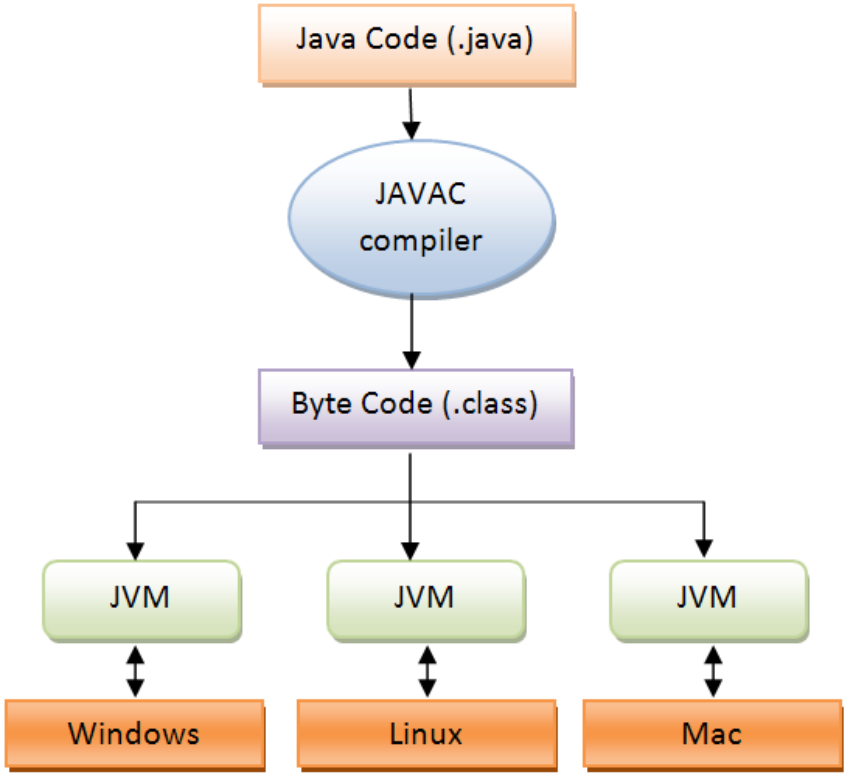
Features of Java

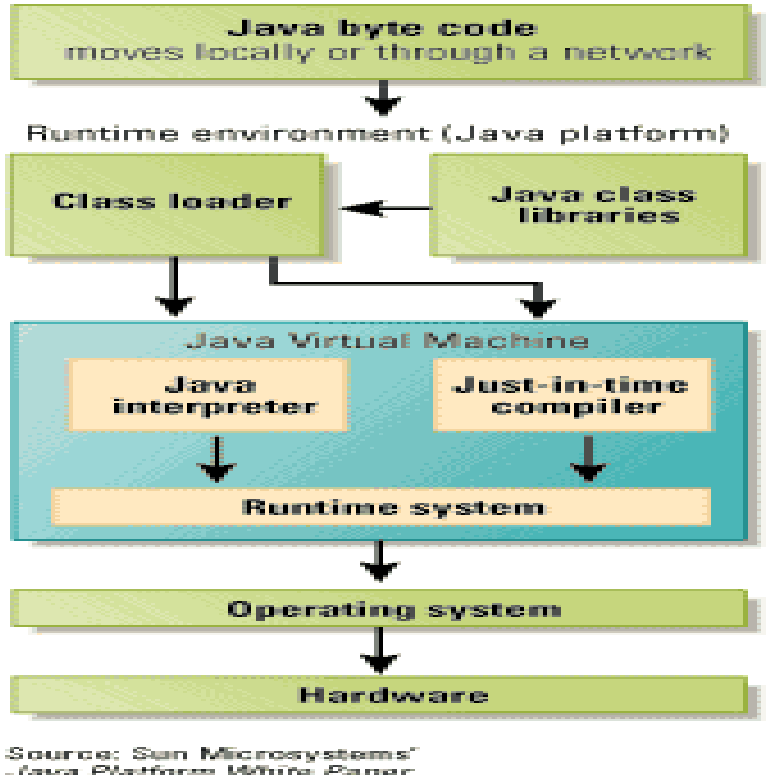
- Secure

  - Java security APIs span a wide range of areas, including cryptography, protection from malevolent programs, variable accessibility restriction etc.
  - A Java program runs only inside JVM sandbox.
  - The sandbox prohibits untrusted programs over networking
  - Disallows reading or writing to the local disk by outside programs
  - The advantage is you don't need to figure out what code you can and can't trust, and you don't need to scan for viruses.

Java Platform

Java platform is the name for a bundle of related programs





Features of Java

Good Performance: Up to 50% - 100% the speed in coparision with C++

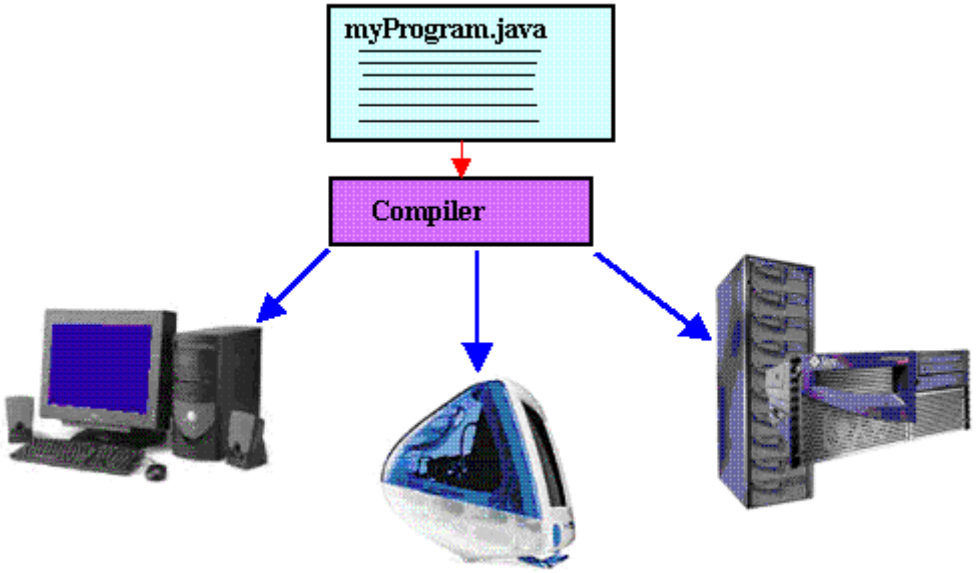
Automatic Memory Management: Garbage collection

Features of Java

- Dynamic
  - Capable of dynamically (at runtime)linking new
    - Class libraries – loaded by Class Loader
    - Methods
    - Objects
  - Java supports functions written in other languages like c, c++
    - These methods are known as ‘native methods’

Features of Java

- Portable



return
THANK
YOU
ctrl
control